

Claims

[c1] I claim,

1. A cosmetic or pharmaceutical composition comprising:
 - (i) At least one divalent metal cation and zeolite anion ion-pair, or a quaternary ammonium cation and zeolite anion ion-pair composition, or a combination thereof, and
 - (ii) At least one anti-inflammatory composition, and
 - (iii) At least one water retentive composition, and
 - (iv) A cosmetically or pharmaceutically acceptable delivery system or a carrier base composition.

[c2] 2. A cosmetic or pharmaceutical composition comprising:

- (i) At least one divalent metal cation and zeolite anion ion-pair composition, or a quaternary ammonium cation and zeolite anion ion-pair composition, or a combination thereof, and
- (ii) A cosmetically or pharmaceutically acceptable delivery system or a carrier base composition.

[c3] 3. A composition according to claim 1, wherein zeolite composition is selected from a group of aluminosilicates

that can be either in hydrated or anhydrous forms.

- [c4] 4. A composition according to claim 1, wherein divalent metal cation and zeolite anion ion-pair can be selected from zinc zeolite, titanium zeolite, calcium zeolite, manganese zeolite, or magnesium zeolite, or a combination thereof.
- [c5] 5. A composition according to claim 1, wherein a quaternary ammonium cation and zeolite anion ion-pair composition can be selected from, but not limited to Stearalkonium zeolite, Cetrimonium zeolite, behentrimonium zeolite, Dicetyl dimonium zeolite, Benzalkonium zeolite, various Polyquaternium zeolite compositions (such as Polyquaternium-1 zeolite, Polyquaternium-2 zeolite, Polyquaternium-3 zeolite, Polyquaternium-4 zeolite, Polyquaternium-5 zeolite, Polyquaternium-6 zeolite, Polyquaternium-7 zeolite, Polyquaternium-10 zeolite, Polyquaternium-11 zeolite, Polyquaternium-16 zeolite, Polyquaternium-44 zeolite, Polyquaternium-46 zeolite, Polyquaternium-59 zeolite, etc.), various UV-absorbing quaternium zeolite compositions (such as Cinnamido-propyltrimonium zeolite), various Quaternium zeolite compositions (such as Quaternium-82 zeolite, Quaternium-7 zeolite, Quaternium-10 zeolite, Quaternium-79 zeolite, and Quaternium-79 zeolite, etc.), silicone quaternium zeolite compositions, and combinations

thereof.

- [c6] 6. A composition according to claim 1, wherein divalent metal cation and zeolite anion ion-pair can be made by an in-situ process from a zinc salt composition and a zeolite composition.
- [c7] 7. A composition according to claim 1, wherein a quaternary ammonium cation and zeolite anion ion-pair composition can be made by an in-situ process from a quaternary ammonium composition and a zeolite composition.
- [c8] 8. A composition according to claim 1, wherein the anti-inflammatory composition can be selected from, but not limited to, at least one antioxidant class of Cyclo-oxygenase (for example, COX-1 or COX-2) or Lipoxygenase (for example, LOX-5) enzyme inhibitors such as Ascorbic acid, Ascorbic acid derivatives, Vitamin E, Vitamin E derivatives, Tocotrienol, Rutin, Quercetin, Hesperedin (*Citrus sinensis*), Diosmin (*Citrus sinensis*), Mangiferin (*Mangifera indica*), Mangostin (*Garcinia mangostana*), Cyanidin (*Vaccinium myrtillus*), Astaxanthin (*Haematococcus algae*), Lutein (*Tagetes patula*), Lycopene (*Lycopersicum esculentum*), Resveratrol (*Polygonum cuspidatum*), Tetrahydrocurcumin (*Curcuma longa*), Rosmarinic acid (*Rosmarinus officinalis*), Hyper-

icin (*Hypericum perforatum*), Ellagic acid (*Punica granatum*), Chlorogenic acid (*Vaccinium vulgaris*), Oleuropein (*Olea europaea*), alpha-Lipoic acid, Glutathione, Andrographolide, Grapeseed extract, Green Tea Extract, Polyphenols, Pycnogenol (Pine Bark extract), White Tea extract, Black Tea extract, (*Andrographis paniculata*), Carnosine, Niacinamide, and Emblica extract. Anti-inflammatory composition can additionally be selected from, but not limited to, Horse Chestnut Extract (*Aesculus hippocastanum* extract)), Esculin, Escin, Yohimbine, *Capsicum Oleoresin*, Capsaicin, Niacin, Niacin Esters, Methyl Nicotinate, Benzyl Nicotinate, Ruscogenins (Butchers Broom extract; *Ruscus aculeatus* extract), Diosgenin (*Trigonella foenumgraecum*, Fenugreek), Emblica extract (*Phyllanthus emblica* extract), Asiaticoside (*Centella asiatica* extract), Boswellia Extract (*Boswellia serrata*), Sericoside, Visnadine, Thiocolchicoside, Grapeseed Extract, Ginger Root Extract (*Zingiber Officianalis*), Piperine, Vitamin K, Melilot (*Melilotus officinalis* extract), Glycyrrhetic acid, Ursolic acid, Sericoside (*Terminalia sericea* extract), Darutoside (*Siegesbeckia orientalis* extract), Amni visnaga extract, extract of Red Vine (*Vitis–Vinifera*) leaves, apigenin, phytosan, luteolin, and combinations thereof.

[c9] 9. A composition according to claim 1, wherein the skin

protectant drug composition can optionally be included, which can be selected from, but not limited to Allantoin, petrolatum, white petrolatum, Cod liver oil, Lanolin, Mineral oil, Talc, Topical starch, dimethicone, calamine, kaolin, zinc oxide, and combinations thereof.

[c10] 10. A composition according to claim 1, wherein water retentive composition can be selected from, but not limited to zeolites, anhydrous zeolites, calcium sulfate, magnesium sulfate, calcium chloride, clays, silica gels, water absorbent organic polymers, water retentive cellulose, starch, and inulin derivatives, carbomers, veegum, dehydro xanthan, cotton, paper fibers, ion exchange resins, chitosan, psyllium husk, algin, agar, carrageenan, gelatin, pectin, locust bean gum, gum arabica, xanthan gum, gellan gum, purified seaweeds (granulated Spirulina), alginate salts, rice bran husk, oat flour, oat protein, colloidal oat protein, soya flour, soya protein, wheat flour, wheat protein, milk powder, milk protein, egg powder, egg protein, casein, rice flour, corn starch, modified starches, rice starch, tapioca starch, inulin, hydrolyzed inulin, soya fibers, cotton fibers, cellulose, modified celluloses, sugars, modified carbohydrates, fenugreek fibers, silk fibers, various clays, zeolites, anhydrous zeolites, fumed silica, porous silica, alumina, various plant gums, and combinations thereof.

- [c11] 11. A composition according to claim 1, wherein a cosmetically acceptable delivery system or a carrier base can be selected in the form of a lotion, cream, gel, spray, thin liquid, body splash, mask, serum, solid cosmetic stick, lip balm, shampoo, liquid soap, bar soap, bath oil, paste, salve, collodion, impregnated patch, impregnated strip, skin surface implant, diaper, and any other such cosmetically or pharmaceutically acceptable topical delivery forms.
- [c12] 12. The compositions according to claim 1, wherein the cosmetically or pharmaceutically acceptable delivery system can be traditional water and oil emulsions, suspensions, colloids, microemulsions, clear solutions, suspensions of nanoparticles, emulsions of nanoparticles, or anhydrous compositions.
- [c13] 13. A composition according to claim 1, wherein cosmetically or pharmaceutically acceptable delivery system or carrier base can optionally include additional skin beneficial ingredients selected from skin cleansers, surfactants (cationic, anionic, non-ionic, amphoteric, and zwitterionic), skin and hair conditioning agents, vitamins, hormones, minerals, plant extracts, anti-inflammatory agents, collagen and elastin synthesis boosters, UVA/UVB sunscreens, concentrates of plant

extracts, emollients, moisturizers, skin protectants, humectants, silicones, skin soothing ingredients, antimicrobial agents, antifungal agents, treatment of skin infections and lesions, blood microcirculation improvement, skin redness reduction benefits, additional moisture absorbents, analgesics, skin penetration enhancers, solubilizers, moisturizers, emollients, anesthetics, colorants, perfumes, preservatives, seeds, broken seed nut shells, silica, clays, beads, luffa particles, polyethylene balls, mica, pH adjusters, processing aids, and combinations thereof.